

ABSTRACT

A fuel cell or fuel cell stack heater using resistive heat. A resistive conductor (preferably some type of metal wire) is attached to a source of electricity such as a battery. The resistive conductor is in proximity with the fuel cell or stack so that when the resistive conductor is heated, the cell or stack will also become hot. An insulating material surrounds the outside of the fuel cell or stack, so that it encloses the cell or stack and the resistive conductor. The insulating material will capture heat from the resistive conductor and any waste heat given off by the operation of the fuel cell or stack. A means for modifying the amount of electrical current in the resistive conductor is attached to the apparatus. When the fuel cell or stack reaches the desired temperature, the means is employed to reduce or turn off current in the resistive conductor.